CLAIMS

1. An apparatus for reading and/or writing data from and /or onto a data carrier, said data carrier containing wobbled tracks, said apparatus having scanning means for scanning said tracks, detection means for detecting at least two elementary signals when scanning said tracks, wobble recovery means for generating a wobble signal from said at least two elementary signals, and wobble processing means for filtering said at least two elementary signals with at least an adaptive filter and for generating an improved wobble signal by subtracting said filtered elementary signals from said wobble signal.

2. An apparatus as claimed in claim 1, having data recovery means for generating a data signal from said at least two elementary signals, wherein said adaptive filter uses filtering coefficients chosen so as to minimize the cross-correlation between said improved wobble signal and said data signal.

3. An apparatus as claimed in claim 2, wherein said filtering coefficients are updated by using an iterative gradient algorithm minimizing a cost function having an instantaneous value equal to the instantaneous value of the squared product of said improved wobble signal and said data signal.

4. An apparatus as claimed in claim 1, wherein said adaptive filter uses filtering coefficients chosen so as to minimize the difference between a scaled version of the improved wobble signal and a reference wobble signal reconstructed on the basis of the generated wobble signal.

5. An optical unit having scanning means for scanning wobbled tracks of a data carrier, detection means for detecting at least two elementary signals when scanning said tracks, wobble recovery means for generating a wobble signal from said at least two elementary signals, and wobble processing means for filtering said at least two elementary signals with at least an adaptive filter and for generating an improved wobble signal (IPP) by subtracting said filtered elementary signals from said wobble signal.

6. An optical unit as claimed in claim 5, having data recovery means for generating a data signal from said at least two elementary signals, wherein said adaptive filter uses filtering coefficients chosen so as to minimize the cross-correlation between said improved wobble signal and said data signal.

7. An optical unit as claimed in claim 5, wherein said adaptive filter uses filtering coefficients chosen so as to minimize the difference between the improved wobble signal and a reference wobble signal reconstructed on the basis of the generated wobble signal.

8. A wobble processing method for processing a wobble signal generated from at least two elementary signals detected by scanning of a wobbled track of a data carrier, comprising a filtering step for filtering said at least two elementary signals with at least an adaptive filter, and a subtracting step for subtracting said filtered elementary signals from said wobble signal, thereby generating an improved wobble signal.

9. A wobble processing method as claimed in claim 8, wherein said filtering step uses filtering coefficients chosen so as to minimize the cross-correlation between said improved wobble signal and a data signal generated from said at least two elementary signals.

10. A wobble processing method as claimed in claim 8, wherein said filtering step uses filtering coefficients chosen so as to minimize the difference between a scaled version of the improved wobble signal and a reference wobble signal reconstructed on the basis of the generated wobble signal.

11. A program comprising instructions for implementing a wobble processing method as claimed in one of claims 8 to 10, when said program is executed by a processor.

12. An apparatus as claimed in claims 1 or 2 comprising sampling means for sampling said at least two elementary signals at a frequency lower than the data bit rate.